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Persuading reluctant households: using behavior coding to understand the interviewer-respondent dynamic in telephone interviews

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Abstract
This paper stresses the importance of using behavior coding as a method to understand the dynamics between the interviewer and the respondent in CATI interview introductions. Analyses are based on 1093 audio-taped introductory parts of telephone interviews with Dutch households, performed by 12 female interviewers. Interviewers were instructed to persuade potential respondents to participate in the survey by means of a personal style or a formal style: interviewers received different instructions on how to persuade the potential respondents. This experiment was implemented in a CATI survey on health-related behaviors and attitudes conducted by the VU University Amsterdam. All materials were transcribed and coded using Sequence Viewer.

Our results showed that persuasion style had no significant effect on survey participation. By means of interviewer-respondent interaction analysis, we studied the interviews in more depth focusing on the compliance of interviewers with the instructions. First, when respondents were reluctant, using any form of persuasion was better than none. Second, interviewers also had success in gaining cooperation when they referred to an argument that they had not been instructed to use. In other words, in these cases the experimental manipulation failed but nonresponse was avoided.

In conclusion, we assume that interviewers who used arguments in which they were trained develop too much of an unauthentic routine in expressing these arguments, whereas using arguments outside instructions are likely to be expressed in a more natural, spontaneous way and are therefore more convincing. In addition, this study shows that it is useful to include behavior coding as a manipulation check in experiments involving verbal interviewer behavior.

1. Introduction

Interviewers can affect both response rates and measurement quality, and they can do so by means of their (mostly fixed) personal characteristics, but also by means of their technical competence and experience, and their role characteristics, such as task-related verbal and non-verbal behavior (Schaeffer, Dykema & Maynard, 2010). Following Dijkstra and Smit (2002) we assume that persuasion attempts by interviewers (i.e., task-related behavior) are important to reduce refusal rates in CATI surveys. However, little is known on the dynamics in interviewer-respondent interaction and critical elements in persuading reluctant respondents.

For most people survey participation is not an activity of utmost importance. Therefore, Groves, Cialdini and Couper (1992) argue that in deciding whether or not to participate, most potential respondents take an heuristic approach, i.e., devoting only small amounts of time or cognitive energy. Groves et al. (1992) apply the six principles of compliance (Cialdini, 1988) to the survey participation request. Accordingly, Dijkstra and Smit (2002) assume that most objections of respondents reflect the heuristic approach, and that interviewers who are more successful in persuading respondents make use of these compliance principles. Observing interviewer-respondent introductory CATI interactions in a non-experimental study, Dijkstra and Smit (2002) found persuading respondents by means of a more personal style (which emphasized the principle of liking, through arguments like 'I would appreciate your help very much' or 'I would be very pleased if you could help me') was more successful than persuading respondents by means of a more formal style (which emphasized the principle of authority through arguments like 'This concerns a scientific study' or 'This study is for the university'). In addition, applying the principle of social validation (through arguments like ‘Most people enjoy the survey’) was not successful.

In the present study we aimed to examine these previous findings and used behavior coding as a manipulation check. In any experiment involving interviewer behavior a manipulation check is essential to distinguish ineffectiveness of the treatment from inadequate implementation of the treatment.

2. Method

2.1 Data Collection

This study was implemented in a CATI survey on health-related behaviors and attitudes. It was conducted across a period of six weeks in February and March 2004 by the VU University Amsterdam. A sample of 1525 telephone numbers was drawn from a website with telephone listings of households in all local communities of the Netherlands. Candidate-interviewers were recruited by means of adds in the VU University newspaper, on the educational website, and on bulletin boards in the university buildings. The selected interviewers were all female social-science students aged between 19 and 28 (n=12). The interviewers were trained and financially compensated for their work.

2.2 Interviewer instructions

An experiment was designed to study the effects of two persuasion styles of interviewers on respondents' participation behavior. All interviewers received general instructions on how to behave during the introductory interaction (see Table 1). Since maintaining interaction reduces the likelihood of respondents terminating the discussion prematurely (Groves et al., 1992), all interviewers were instructed to maintain interaction and to never immediately accept a soft refusal (i.e. essentially all cases during which respondents do not immediately break the phone connection). In addition, interviewers were instructed to schedule an appointment with potential respondents when they indicated to be busy, instead of attempting to conduct an interview immediately. The interviewers were trained to answer questions of potential respondents and to reassure respondents of the confidential nature of the survey, explaining that results can never be traced down to an individual respondent. A final general instruction equal for interviewers in both conditions was to use their own wording, in their reactions to potential respondents, making the interaction as natural as possible.

Table 1. Overview of instructions in the interviewer groups

	General Instruction in all groups	
	- Maintain interaction; never immediately accept a refusal - If the householder is busy, try to reschedule an appointment - Answer questions of householders - Use your own wording - Emphasize confidential nature of the survey	
Compliance Principle	**Specific Instructions Personal style**	**Specific Instructions Formal style**
Liking	- Emphasize personal interest	- Do not mention personal interest
Authority	- Never refer to the university	- Emphasize importance for university or science
Social Validation	- Never say most people enjoy the survey	- Mention that most people enjoy the survey

Six interviewers were instructed to persuade potential respondents by means of a personal style and the other six interviewers were instructed to persuade by means of a formal style (see Table 1). The differences between the two styles of interviewing were derived from Dijkstra's and Smit's (2002) findings and Cialdini's compliance principles of liking, authority, and social validation (Cialdini, 1988; Groves et al., 1992).

In the personal style, the principle of liking was emphasized. Interviewers trained in the personal style of persuasion were instructed to emphasize their personal interest in cooperation, and to explain that it would be very helpful for them personally. They were instructed never to repeat the refusal, never to refer to the university and fill in potential respondents' thoughts by telling them that most people enjoy the survey.

The formal style of persuasion emphasized the principle of authority. Interviewers trained in the formal style of persuasion were instructed to emphasize the social responsibility and importance for the university or science. They were also instructed to mention that most people enjoy the survey. In order to avoid interviewers to spontaneously use elements of the personal style of persuasion, they were instructed not to mention their personal interest.

2.3 Analysis: Coding of the data

In total 1093 interactions with unique phone numbers were analyzed (only the last call to each contact was stored). The sound files were transcribed and coded in Sequence Viewer (Dijkstra, 2014) by two graduate students. The coding scheme that was used, was based on a scheme used in earlier studies (Dijkstra & Smit, 2002). In this study the utterance (or 'move') was taken as a unit of coding. Before finalizing the data for analysis, the coded transcripts were systematically analyzed on rare codes, and common errors. In order to study the reliability of coding, 109 interactions were double coded independently by the principal researcher (i.e., entire calls). The overall Kappa value of coding all variables (0.74) indicates substantial agreement.

3. Results

3.1 Main effect of persuasion style

Although interviewers who were trained in the formal style have a slightly higher cooperation rate (58%) than interviewers trained in the personal style (56%), the two experimental groups do not differ significantly in participation rates (χ^2 (1, n = 1093) 0.498, p = .48, ω = 0.02). This result indicates that by looking exclusively at the manipulation (i.e., without analyzing the interviewer-respondent recordings) both persuasion styles had similar effects on cooperation. However, the question is of course whether interviewers indeed behaved as instructed in the interviewer training. Not obeying instructions in interviewer training may be a consequence of unexpected respondent behaviors and any complexities in the verbal interaction between interviewer and respondent. Therefore, we decided to check the success of our interviewer training by analyzing the interactions in more detail.

3.2 Immediate compliance

Using interviewer-respondent interaction coding, actual interviewer behaviors were analyzed and compared to the instructions the two interviewer groups received. It appears that in most cases that end up in an interview (80%), respondents agree to be interviewed immediately after the interviewer's request. Thus, in those cases additional interviewer argumentation (i.e., moves that are presumed to be different among the two interviewer styles) did not play a role for respondents to make their initial decision. The proportion of immediate acceptances appears to be slightly higher among interviewers in the formal style (81%) than among interviewers in the personal style (75%), (χ^2 (1, n = 1093) 2.58, p = .11, ω=0.05). Moreover, since this difference is not significant, we do not expect that wording changes in the introductory text or differences between interviewers' voice characteristics play an essential role in explaining differences between the two groups of interviewers (see Van der Vaart, Ongena, Hoogendoorn, & Dijkstra, 2006).

In addition, among the cases where no immediate acceptance occurred (n = 594), there is no difference in the proportion of cases ending up in an interview among interviewers trained in the formal style (22%) and those trained in the personal style (24%), (χ^2 (1, n = 594) 0.55, p = .45, ω = 0.03). So, different training protocols did not differentially increase participation. Moreover, even initial compliance does not guarantee completion of an interview. It appears that in 20 interactions

the respondent initially accepts, but then refuses to cooperate after the interviewer mentions the duration of the interview.

3.3 Manipulation check: Actual use of arguments

The use of arguments by interviewers was verified for those cases where there was no immediate acceptance and no blocking declination which occurred in six cases, so in total 588 cases were analyzed. Table 2 provides a manipulation check for implementation of personal and formal persuasion styles. There is no difference in the percentage of cases where interviewers provide any type of argument, although this percentage appears to be slightly higher in the personal style of interviewing. It is striking that the personal interviewers, against instructions, did mention study importance. However, this argument indeed was used more often by the formal interviewers than in the personal group. Similarly, the social validation argument was used more often in the formal group, whereas personal interviewers more often used personal importance than formal interviewers.

Table 2. Percentage of calls in which interviewers give each type of argument organized by style.

	Style of Interviewing - treatment			
		Personal	**Formal**	
	Style of argument	**Percent**	**Percent**	**Chi-square (df=1)**
Any argument		65.7	60.7	1.66
Study importance mentioned (*principle of authority*)	Formal	4.2	16.5	24.50***
Mentioning most people enjoy survey (*principle of social validation*)	Formal	0.0	9.3	30.13***
Personal importance mentioned (*principle of liking*)	Personal	9.7	1.1	20.63***
n=		309	279	

***p<0.001.

3.4 Participation per argument

Since the manipulation check showed interviewers did use different arguments, but not in all cases according to instructions, we further explored which arguments are more successful in terms of obtaining cooperation. We created four 'panels' (A, B, C, and D) corresponding to the persuasion styles and the compliance principles (see Table 3).

In panel A, calls during which the interviewer uses any argument anywhere in the interaction, are compared with calls during which the interviewer gives no argument at all. Panel A shows that it is useful to give any argument after a respondent's refusal move; the response rate increases to 28% when interviewers provide an argument. We also verified whether this effect is the same in the formal and personal style, which indeed was the case (personal group: χ^2 (1, n = 309) 13.1, $p < 0.001$, $\omega = 0.21$, formal group: χ^2 (1, n = 279) 20.9, $p < 0.001$, $\omega = 0.27$).

Panel B (principle of authority) shows only a small effect for mentioning the importance of the study for scientific institutes or the university. However, higher participation rates were found for interviewers who were not instructed to use this argument (i.e., in the personal group, χ^2 (1, n = 309) 8.80, $p < 0.01$, $\omega = 0.07$). This effect was not found for interviewers who were instructed to use this argument (i.e., in the formal group, χ^2 (1, n = 279) 0.25, $p = 6.15$, $\omega = 0.03$). Personal interviewers (who were not instructed to use the authority argument) were more successful in getting respondents to agree to be interviewed when using this argument than the formal interviewers.

Panel C (principle of liking) shows that mentioning personal relevance increased participation. Interviewers in the formal group, who were not instructed to use this argument, did use this argument in three cases (which appeared to be two different interviewers), all of which

were successful (although due to the low numbers this finding cannot be verified statistically).

Finally, panel D (principle of social validation) shows that mentioning that most people enjoy the survey is only moderately successful. Interviewers in the personal group never used this argument (as instructed), and for interviewers in the formal group this argument did not significantly increase response rates.

Table 3. Percentage of interviews after interviewer's reaction

Panel A: Mentioning any argument or no argument at all				
	Any argument	**No argument**	**Total**	**Chi-square (df=1)**
Interview	28%	8%	21%	χ^2=33.38***
n	371	216	588	ω = 0.23
Panel B: Principle of authority				
	Study importance mentioned	**Study importance not mentioned**	**Total**	**Chi-square (df=1)**
Interview	31%	20%	21%	χ^2=3.50 n.s.
n	59	529	588	ω = 0.07
Panel C: Principle of liking				
	Personal importance mentioned	**Personal importance not mentioned**	**Total**	**Chi-square (df=1)**
Interview	42%	20%	21%	χ^2=9.56**
n	33	555	588	ω = 0.14
Panel D: Principle of social validation				
	Most people enjoy survey mentioned	**Most people enjoy survey not mentioned**	**Total**	**Chi-square (df=1)**
Interview	31%	21%	21%	χ^2=1.53 n.s.
n	26	562	588	ω = 0.07

**p<0.01. ***p<0.001.

4. Conclusion

From our findings, we conclude that a failure of interviewers to apply their training could not account for the absence of a difference in participation between the two groups of interviewers. Although in the majority (80%) of the cases that eventually ended up in an interview (n=623), householders complied without any need for persuasion, interviewers managed to successfully persuade 21% of householders who initially refused (n=588). Participation among initially declining householders increases close to 30% when interviewers use an argument of any kind in persuasion. This effect was not different between the two differently trained groups of interviewers. Therefore, our first conclusion is that any argumentation is better than none. However, the causal direction of this effect is, of course, not clear. It is possible that interviewers' expectations of success drive the results; interviewers might only make the effort to provide an argument when from the householder's reaction they expect to be successful in persuading that particular respondent.

Looking at specific arguments actually used in the interaction, interesting findings arise. When using the importance of the study as an argument, interviewers trained in the personal style (not instructed to use this argument) had more success in gaining cooperation than interviewers trained in the formal style (instructed to use this argument). Likewise, two interviewers trained in the formal style of interviewing, who stressed (*against* the rules in their condition) their personal relevance, were equally successful in using that argument as interviewers in the personal style (who were specifically instructed to do so.) Therefore, we posit that interviewers using arguments within instructions develop too much of a unauthentic routine in expressing these arguments, whereas using arguments outside instructions are likely to be expressed in a more natural, spontaneous way and therefore more convincing. In addition, providing interviewers with too specific instructions on which argument they should use also moves them away from tailoring arguments to specific

householders. Both tailoring (Groves et al., 1992) and spontaneous behavior (i.e., non-verbatim reading, see Houtkoop-Steenstra & van den Bergh, 2002) have been demonstrated to be most effective in persuading reluctant householders.

5. Points for discussion during Nonresponse Workshop

Persuading householders to participate

- What are best practices for persuading respondents to participate in any survey (interviewer-administered, as well as self-administered)? From our results it seems like interviewers who are free-riding, relaxing the rules, are best at persuading respondents, but the question is whether they are also the best in standardized interviewing.
- In which stages of the survey process do we need to implement design features that can persuade the respondent?

Behavior coding for survey analysis

- It is useful to include manipulation checks in experiments involving interviewer behavior. Researchers testing the effects of a manipulation of interviewer behavior should take into account detailed checks on how these behaviors were actually implemented.
- Behavior coding is very time-consuming, but it can give detailed insight in the communication between an interviewer and a respondent. What are the best practices for transcribing and coding interviewer-respondent interactions? Are there methods that are less labor intensive but can still provide us detailed information about the interviewer-respondent dynamic?

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